

Amendments to Claims

1. **(Previously Presented)** A method of providing desulfurized hydrocarbon feed, comprising:

producing hydrogen-rich reformate from undesulfurized hydrocarbon feed in a small hydrogen generator; and

5 feeding said hydrogen-rich reformate along with the undesulfurized hydrocarbon feed to a hydrogen desulfurizer.

2. **(Previously Presented)** A method according to claim 1 wherein said producing step comprises:

producing hydrogen-rich reformate from the undesulfurized hydrocarbon feed and humidified air.

3. **(Previously Presented)** Apparatus for providing desulfurized hydrocarbon feed, comprising:

means including a small hydrogen generator for producing hydrogen-rich reformate from undesulfurized hydrocarbon feed;

5 a hydrogen desulfurizer; and

means for feeding said hydrogen-rich reformate along with the undesulfurized hydrocarbon feed to said hydrogen desulfurizer.

4. **(Previously Presented)** A system for desulfurizing hydrocarbon feeds, comprising:

a source of undesulfurized hydrocarbon feed;

a small hydrogen generator receiving said undesulfurized hydrocarbon feed

5 from said source and providing hydrogen-containing reformate gas; and

a hydrogen desulfurizer receiving said undesulfurized hydrocarbon feed from said source of undesulfurized hydrocarbon feed and receiving said hydrogen-containing gas from said small hydrogen generator.

5. **(Currently Amended)** A system according to claim 4 further comprising:

a source of humidified air; and wherein

5 said small hydrogen generator receives humidified air from said source of humidified air to produce said reformate gas from said undesulfurized hydrogen hydrocarbon feed and said humidified air.

6. **(Original)** A system according to claim 4 wherein:

said small hydrogen generator is a mini-CPO (catalytic partial oxidizer).

7. **(Original)** A system according to claim 4 wherein:

said small hydrogen generator is a mini-POX (non-catalytic partial oxidizer).

8. **(Original)** A system according to claim 4 wherein:

said small hydrogen generator is a mini-ATR (auto-thermal reformer).

9. **(Previously Presented)** A system for producing hydrogen-rich reformate from hydrocarbon feeds, comprising:

a source of undesulfurized hydrocarbon feed;

a source of humidified air;

5 a source of water;

a small hydrogen generator receiving undesulfurized hydrocarbon feed from said source of undesulfurized hydrocarbon feed to produce a first stream of hydrogen-containing reformate gas;

10        a hydrogen desulfurizer receiving undesulfurized hydrocarbon feed from said source of undesulfurized hydrocarbon feed and said first stream of hydrogen-containing reformat gas from said small hydrogen generator, and providing desulfurized hydrocarbon feed; and

15        a fuel processor including a major reformer receiving said desulfurized hydrocarbon feed and said humidified air and producing a second stream of hydrogen-containing reformat, a water-gas shift reactor receiving said second stream of hydrogen-containing reformat and said water and feeding the resultant gas into a preferential CO oxidizer, for producing a third stream of hydrogen-containing reformat for use as fuel, whereby recycled hydrogen gas from the output of said fuel processor in said third stream is not required for said

20        desulfurizer, thereby (a) eliminating the need for an expensive, power consuming hydrogen blower and (b) reducing the steam fed into said hydrogen desulfurizer.

10. **(Previously Presented)** A system according to claim 9 wherein: said small hydrogen generator receives said humidified air to produce said first stream of reformat gas from said undesulfurized hydrocarbon feed and said air.

11. **(Original)** A system according to claim 10 wherein: said small hydrogen generator is a mini-CPO (catalytic partial oxidizer).

12. **(Original)** A system according to claim 10 wherein: said small hydrogen generator is a mini-POX (non-catalytic partial oxidizer).

13. **(Original)** A system according to claim 9 wherein: said small hydrogen generator is a mini-ATR (auto-thermal reformer).